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<div>REVISION HISTORY SHEET</div> <table><tr><th>REV No.</th><th>DATE</th><th>NATURE OF CHANGE</th><th>REASON</th><th>PREPARED BY</th><th>CHECKED BY</th><th>REVIEWED BY</th></tr><tr><td>00</td><td>17.10.2018</td><td>FIRST ISSUE</td><td>---</td><td>HN</td><td>BNS</td><td>DP</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>						REV No.	DATE	NATURE OF CHANGE	REASON	PREPARED BY	CHECKED BY	REVIEWED BY	00	17.10.2018	FIRST ISSUE	---	HN	BNS	DP																					
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		<div> A4-10</div>	<div>PURCHASE SPECIFICATION WORKSTATION FURNITURE, RACKS &amp; CONFERENCE TABLE FOR FARAKKA STAGE –I (3X200MW)</div>	PS/404/2785																											
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COPYRIGHT AND CONFIDENTIAL  The information contained in this document is the property of BHARAT HEAVY ELECTRICALS LIMITED This must not be used directly or indirectly, in any manner detrimental to the interest of the company	<p>Industrial grade furniture items, as per specifications mentioned below, from reputed manufacturers/suppliers, meeting International Standards, are required for FARAKKA STAGE –I (3X200MW) Project. The desk &amp; furniture shall be modular and latest with ease of operational features. The furniture shall be modern, aesthetically designed, modular, flexible, space saving and future safe. Each module shall have transparent cover and adjustable partition. It shall have locking provision for security. The components shall be suitable for integration/fabrication without any welding technology</p> <p>Furniture as mentioned below are required:</p> <ol style="list-style-type: none"><li>1. Workstation furniture (section of 2) – As per <b>part A</b></li><li>2. PC rack (rack behind LVS) – As per section <b>part B</b></li><li>3. Server rack– As per <b>part C</b></li></ol> <p><b>Note:</b></p> <ol style="list-style-type: none"><li>1. <b>General specifications are mentioned in part D of this document.</b></li><li>2. <b>Supplier is required to submit the filled, signed and stamped copy of this specification along with the offer, failing which offer is liable for rejection.</b></li></ol> <p><b>Annexures:</b></p> <table><tr><td>Annexure I</td><td>–</td><td>Workstation furniture (section of 2)</td></tr><tr><td>Annexure II</td><td>–</td><td>PC rack (rack behind LVS)</td></tr><tr><td>Annexure III</td><td>–</td><td>Server rack</td></tr></table> <p style="text-align: center;"><b><u>PART - A</u></b></p> <p style="text-align: center;"><b><u>WORKSTATION FURNITURE (SECTION OF 2) FOR PROGRAMMER ROOM</u></b></p> <p>Modular workstation furniture suitable for mounting programmer stations, PC based systems, shall be as per BHEL drawing attached as Annexure – I. Brief specifications for the same are given below:</p> <table><tr><th>Sl. No.</th><th>Specification</th><th>Supplier’s Remark</th></tr><tr><td>1</td><td>Design, Manufacture / Fabrication and Supply of in Position Control Room Racks as per indicative drawing (Annexure-I)</td><td></td></tr><tr><td>2</td><td>It shall consists of Vertical, Horizontal and Base supports with their coverings and Work surfaces and Pullout Keyboard Trays, concealed wire way management profiled trays with covers in both Horizontal and Vertical Directions complete with clamps, adapter sleeve, switches, foot rest etc.</td><td></td></tr><tr><td>3</td><td>VERTICAL SUPPORT : Support legs dimensions as per drawing in minimum 2.0 mm thick extruded / profiled aluminium / laminated steel, to hold mounting base, work surface and shelves. Side and top supports / stiffeners to be provided, as required, for strength and supporting wire ways.</td><td></td></tr><tr><td>4</td><td>WORK SURFACE •Worktop of dimensions as per the drawing. It shall be made of MDF board, laminated/veneered on both sides, having minimum 25mm thickness. •Profiled Steel Support and cantilevered beam, if required, in Die Cast Aluminium/Steel, to support legs and pillars which are to be powder coated in approved color/shade. •Worktop to have keyboard trays of compact design with provisions for sliding, complete with mounting arrangement. •Shelves to hold the CPU to be height adjustable.</td><td></td></tr><tr><td>5</td><td>Tracking light and foot rest should be provided for each section of the workstation furniture</td><td></td></tr></table>				Annexure I	–	Workstation furniture (section of 2)	Annexure II	–	PC rack (rack behind LVS)	Annexure III	–	Server rack	Sl. 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Sl. No.	Specification	Supplier's Remark
1	Finished surface to be free from waves, belies or other imperfections. Surface to be Powder Coated or if Spray painted, 2 coats of inhibitive epoxy primer surface to be applied. Paint with Minimum of 2 coats of Primer and 2 sprays of final finish color to be applied OR powder coated with epoxy paint. Exact color and shade of components will be specified at the time of Order placement. Minimum thickness for Aluminum Sheets: is 30 microns. For MS Components: is 65 microns	
2	Along with offer detailed drawings showing sectional view, top view, front view, and rear view of desks and tables, electrical wiring diagram with bill of materials for each item.	
3	Documents to be submitted for manufacturing approval: <ul style="list-style-type: none"> <li>▪ Detailed OGA with front view, top view, rear view, sectional view, and floor cut-out details for desks and tables.</li> <li>▪ Electrical Wiring Diagram with BOM of racks, workstation furniture and printer racks.</li> <li>▪ Quality Plan</li> <li>▪ Color Shade options.</li> </ul>	
4	Supplier internal Test certificate for dimensions, visual inspection, paint, HV, IR, electrical functions to be submitted before giving inspection calls to BHEL.	
5	Inspection by BHEL / CUSTOMER at supplier's work.	
6	<b>For PC and Server Rack in order to ensure proper cooling arrangement, in door closed condition, in front side &amp; rear side, louvers in top tier and bottom tier to be provided and on rear side exhaust fans to be provided in parallel to these louvers.</b>	
7	All items will be directly dispatched to project site from supplier works after obtaining necessary clearance from BHEL. Consignee details will be intimated at the time of placement of PO.	

		<div> A4-10</div>	<div>PURCHASE SPECIFICATION WORKSTATION FURNITURE, RACKS &amp; CONFERENCE TABLE FOR FARAKKA STAGE –I (3X200MW)</div>		PS/404/2785
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COPYRIGHT AND CONFIDENTIAL  The information contained in this document is the property of BHARAT HEAVY ELECTRICALS LIMITED This must not be used directly or indirectly, in any manner detrimental to the interest of the company	8	All items shall be packed in complete weather proof packing with sufficient cushioning to avoid transit damage. Suitable pallet shall be provided for handling and transportation			
	9	Name Plates with following details are to be provided for each shipping section. <div><div>▪ Item: <b>As per PO</b></div><div>▪ Project Name / Unit no: <b>As per PO</b></div><div>▪ Customer Name: <b>As per PO</b></div><div>▪ BHEL Order No.: <b>As per PO</b></div><div>▪ Date of dispatch to site: <b>As per PO</b></div></div>			
	10	Assembly, erection and installation, including laying of power cables, keyboard, mouse and monitor extender cables, termination of the cables, at site to be carried out by supplier. Offer to include charges for same along with necessary touch up etc.			
	11	Modifications as per site requirements to be done on free of cost to match with floor opening for cables. Site work for aligning and matching the curvature of desk as shown in enclosed drawing is under supplier scope.			
	12	Warranty: Offer to include “Two years warranty at site” for all items against manufacturing defects from date of supply. Warranty to include all costs towards material, labor, to & fro, traveling, accommodation and stay etc. Exact location of the project site will be intimated at the time of PO.			
	*****				

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36594402806 01

SIGN. & DATE

INVENTORY No.

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DRG. No. 3 659 44 03662

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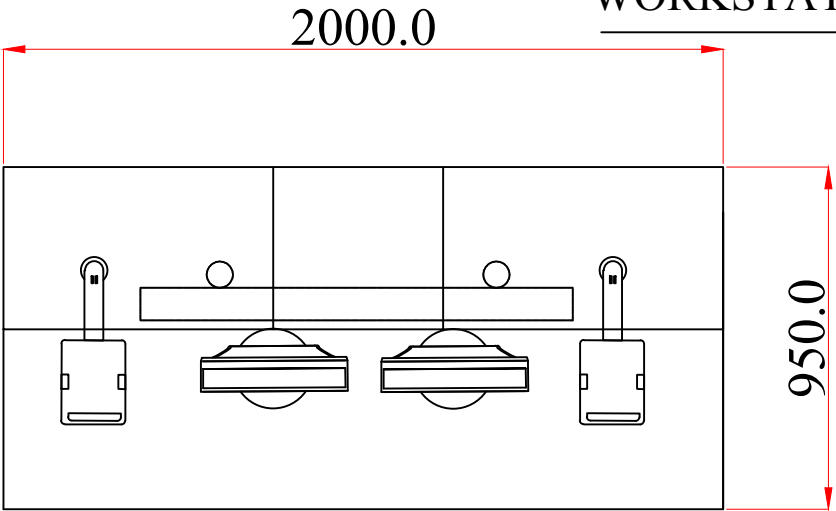
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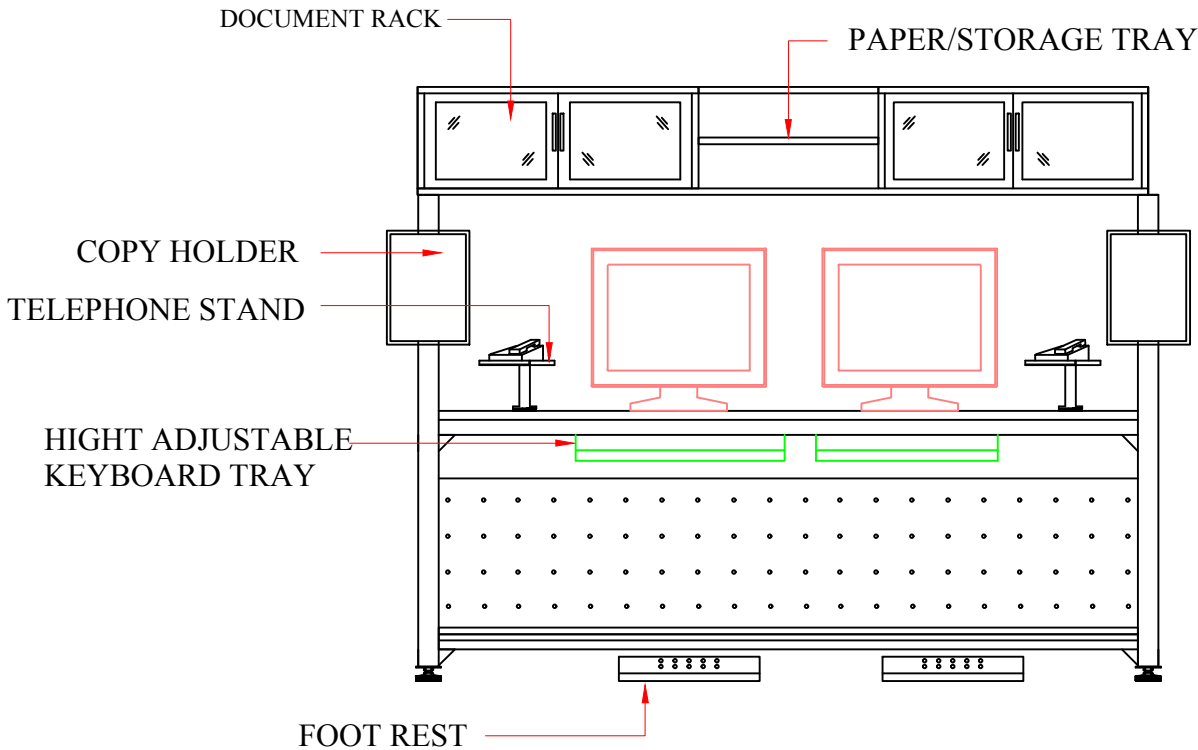
8

ANNEXURE-I

WORKSTATION FURNITURE (SECTION OF 2 )



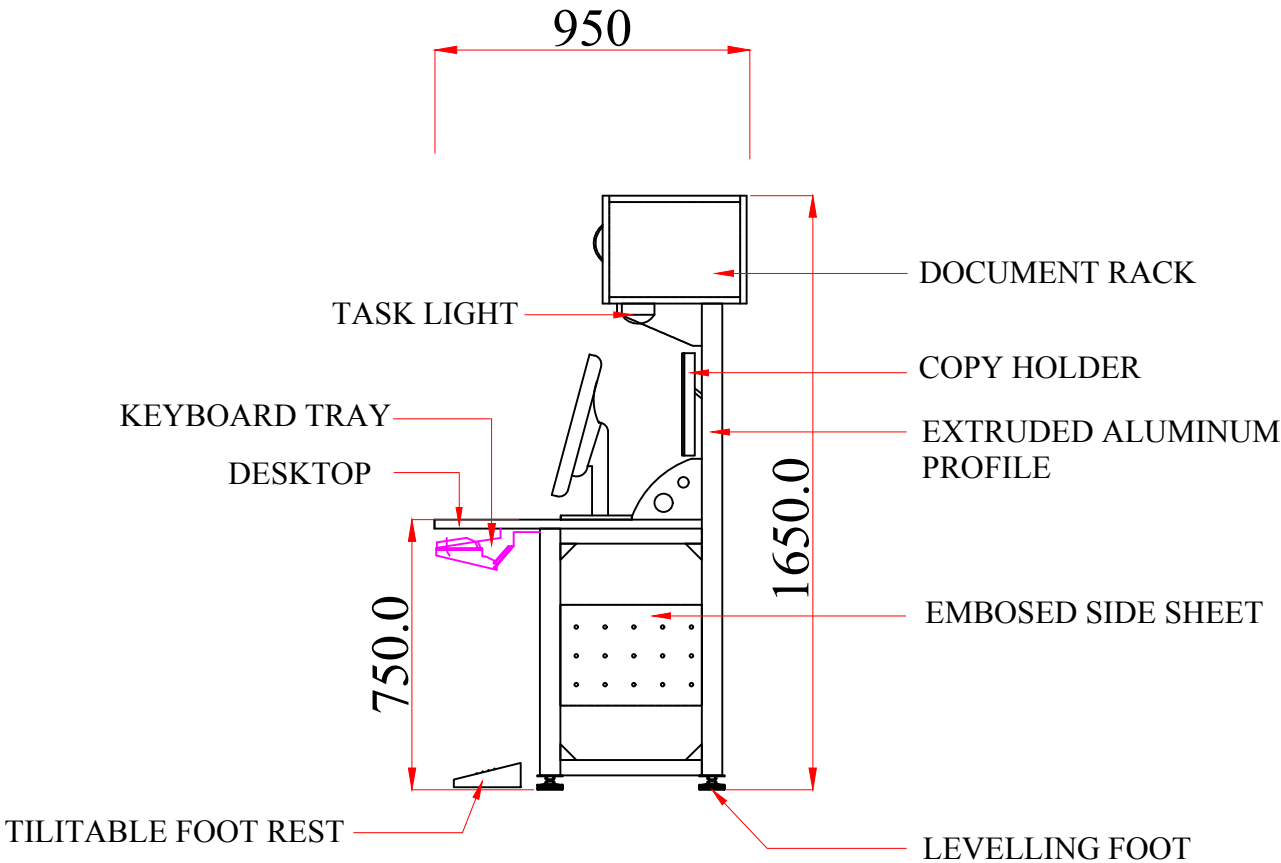
TOP VIEW



FRONT VIEW

NOTE :

- 1) WORK SURFACE THK : 25 MM (PARTICLE BOARD)
- 2) COLOR OF LAMINATE - AS PER APPROVAL
- 3) PAINT SHADE  
SIDE & BACK SHEET - AS PER APPROVAL
- 4) PAINT THICKNESS  
MS COMPONENTS : MIN. 60 MICRON
- 5) TOTAL ALUMINIUM EXTRUSION - CROMATISED & THEN  
POWDER COATED IN ALUMINUM GREY (RAL 9006)
- 6) CPU DIMENSIONS : 445(H) X 220(W) X 650(D) MM.  
UPS DIMENSIONS : 220(H) X150(W) X 410(D) MM.  
22" MONITOR DIMENSIONS : 514 (W) X 65 (D) X 306(H) MM.  
UPS & BATTERY DIMENSIONS : 250 (W) X 550(H) X 550(D) MM.
- 7) COLOR OF PVC EXTRUSION - RAL 5012 OR SIMILAR
- 8) 4 WAY SPIKE BUSTER (5/15 A RATED)  
TO BE PROVIDED FOR EACH SECTION OF WORKSTATION
- 9) CPU's & MONITORS ARE SHOWN FOR ILLUSTRATION  
PURPOSE ONLY, IT IS NOT PART OF THIS OGA .



SIDE VIEW

PRODUCT : FARAKKA STG-I (3x200 MW)

CUSTOMER: M/s NTPC

BHARAT HEAVY ELECTRICALS LIMITED.  
ELECTRONICS DIVISION, BANGALORE

REV.	DATE	ALTERED	REV.	DATE	ALTERED		NAME	SIGN	DATE
		CHECKED			CHECKED				
		APPROVED			APPROVED				
						DRAWN	S.H.K		14-08-2018
						CHECKED	H.N		14-08-2018
						APPROVED	B.N.S		14-08-2018

DEPT.  
ENGG

CODE  
404

TITLE:

OGA OF WORKSTATION FURNITURE (SECTION OF 2)

No. OF  
SHEETS

08

SHEET  
No.

08

REV

WBS. No.

CE/1430-SH1-56-01

DRG. No.

3 659 44 04257

00

### PC RACK (RACK BEHIND LVS)




- NOTES :-**
1. SHELVES THK : 25 MM (MDF)  
SIDE SHEET THICKNESS - 1.6mm
  2. COLOR OF LAMINATE - AS PER APPROVAL
  3. PAINT SHADE  
SIDE COVER & BACK DOOR - (AS PER APPROVAL)
  4. EXTREME SIDE COVERS WILL BE EMBOSSED
  5. ALL ALUMINIUM EXTRUSION WILL BE POWDER COATED  
IN ALUMINIUM GREY.
  6. WORKSTATIONS OF OWS WILL BE KEPT IN CLOSED RACK WITH  
GLASS DOOR (FRONT) & PERFORATED SHEET DOOR (REAR).
  7. THE CPU UNITS OF SERVERS / WORKSTATIONS WILL WEIGH APPROXIMATELY  
20 KGS EACH, THE DESIGN PROPOSED SHOULD BE CAPABLE OF SUPPORTING  
THE ABOVE LOAD



PRODUCT : FARAKKA STG-I (3x200 MW)  
CUSTOMER: M/s NTPC

BHARAT HEAVY ELECTRICALS LIMITED.  
ELECTRONICS DIVISION, BANGALORE

REV.	DATE	ALTERED	REV.	DATE	ALTERED		NAME	SIGN	DATE
		CHECKED			CHECKED				
		APPROVED			APPROVED				
						DRAWN	S.H.K		14-08-2018
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DEPT. ENGG	CODE 404
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BHARAT HEAVY ELECTRICALS LIMITED.					
ELECTRONICS DIVISION, BANGALORE					
TITLE:  OGA OF PC RACK				No. OF SHEETS	08
				SHEET No.	06
WBS. No.	CE/1430-SH1-56-01	DRG. No.			REV
		3 659 44 04257			00



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INVENTORY No.

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DRG. No.  
3 659 44 03662

1000

900

TOP VIEW

LOCK

HANDLE

1750

MDF TOP

BATTERY

PC

UPS

KVM MATRIX SWITCHER

FRONT DOOR

FRONT VIEW

LOCK

HANDLE

MDF TOP

EXTRUDED ALUMINIUM PROFILE

LEVELLING FOOT

BACK VIEW

900

MDF TOP

PVC CABLE TRAY FOR WIRE THROUGH

MDF TOP

PC

CABLE TRAY FOR WIRE TROUGH

EXTRUDED ALUMINUM PROFILE

BACK DOOR

PC

CABLE TRAY FOR WIRE TROUGH

WIRE FROM FLOOR

SECTIONAL SIDE VIEW

900

MDF TOP

PERFORATED SIDE SHEET

EXTRUDED ALUMINUM PROFILE

BACK DOOR

SIDE VIEW

ANNEXURE-III

SERVER RACK

NOTES :-

1. SHELVES THK : 25 MM (MDF)  
SIDE SHEET THICKNESS - 1.6mm

2. COLOR OF LAMINATE - AS PER APPROVAL

3. PAINT SHADE  
SIDE COVER & BACK DOOR - (AS PER APPROVAL)

4. EXTREME SIDE COVERS WILL BE EMBOSSSED

5. ALL ALUMINIUM EXTRUSION WILL BE POWDER COATED  
IN ALUMINIUM GREY.

6. WORKSTATIONS OF OWS WILL BE KEPT IN CLOSED RACK WITH  
GLASS DOOR (FRONT) & PERFORATED SHEET DOOR (REAR).

7. THE CPU UNITS OF SERVERS / WORKSTATIONS WILL WEIGH APPROXIMATELY  
20 KGS EACH, MINIUPS AND BATTERY TOGETHER WILL WEIGH AROUND 60 KGS  
TOTALLY. THE DESIGN PROPOSED SHOULD BE CAPABLE OF SUPPORTING  
THE ABOVE LOAD

PRODUCT : FARAKKA STG-I (3x200 MW)

CUSTOMER: M/s NTPC

REV.

DATE

ALTERED  
CHECKED  
APPROVED

REV.

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APPROVED

NAME

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404

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S.H.K

14-08-2018

CHECKED

H.N

14-08-2018

APPROVED

B.N.S

14-08-2018

BHARAT HEAVY ELECTRICALS LTD.

BHHL

TITLE:

WBS. No.

CE/1430-SH1-56-01

DRG. No.

3 659 44 04257

No. OF SHEETS

08

SHEET No.

07

REV

00

BHARAT HEAVY ELECTRICALS LIMITED.

ELECTRONICS DIVISION, BANGALORE

OGA OF SERVER RACK